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AUTHOR Colombo, Marianne; Sadowski, Lynne; Walsh, Angela
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ABSTRACT

This action research project investigated the use of various methods of teaching as a means of developing an integrated curriculum to address the lack of transfer skills among kindergarten students. Evidence of the problem included the deficiency of skills demonstrated on academic assessments, teacher observations, and anecdotal records. Analysis indicated an isolated curriculum focusing on the quantity of skills taught rather than the quality of methods used to promote transfer, an absence of active learning, and segregated subjects. Interventions included use of thematic units, learning centers, cooperative learning, and active participation in the classroom. The results of the project were favorable. Use of learning centers and an integrated curriculum demonstrated that relevant application of skills presented in an active learning environment led to meaningful discovery and student success. (Five appendices include student survey forms and learning center activities. Contains 33 references.) (EV)

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IMPROVING KINDERGARTEN STUDENTS' TRANSFER SKILLS THROUGH THE USE OF THEMATIC UNITS AND AN INTEGRATED CURRICULUM

Marianne Colombo
Lynne Sadowski
Angela Walsh

An Action Research Project Submitted to the Graduate Faculty of the
School of Education in Partial Fulfillment of the
Requirements for the Degree of Master of Arts in Teaching and Leadership

Saint Xavier University & SkyLight

Field-Based Masters Program

Chicago, Illinois

May, 2000

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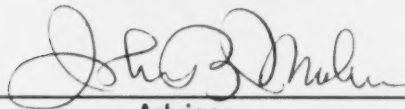
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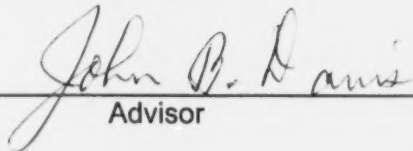
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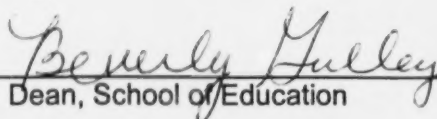
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IMPROVING KINDERGARTEN STUDENTS' TRANSFER SKILLS THROUGH THE USE OF LEARNING CENTERS AND AN INTEGRATED CURRICULUM

Marianne Colombo
Lynne Sadowski
Angela Walsh

May 2000

ABSTRACT

The following report stresses the need to incorporate various methods of teaching as means of developing an integrated curriculum to address the lack of transfer skills among kindergarten students. The target population of Site A consisted of kindergarten students randomly grouped within classrooms in a medium-sized district of a growing middle class community located in a southwestern suburb of Illinois. The target population of Site B was kindergarten students in a small district in a middle to low income, changing community located in a suburb south of a major metropolitan area of Illinois. Evidence for the existence of the problem included the deficiency of skills from assessments that indicated student academic performance, teacher observations, and anecdotal records.

Analysis of the probable cause data revealed an isolated curriculum focusing on the quantity of skills taught rather than the quality of methods used to promote transfer, an absence of active learning, and segregated subjects. Teachers have observed incoming students' lack of retention and transference skills. The isolated skills taught in the curriculum do not meet the students' learning styles and needs. A review of the literature further substantiated these views.

Upon examination of the literature and the possible solutions to the dilemma of lack of mastery and transfer of skills, it was evident that an integrated curriculum affected students' academic achievement. Enhanced learning occurred when changes were implemented in the delivery of the curriculum. Possible solutions that were explored in this project included: thematic units, learning centers, cooperative learning, and active participation in the classroom. Through this process of engaged learning the researchers have examined, analyzed, incorporated, and assessed the learning and transfer of skills that concerned the targeted groups for further commentary.

The results of the action research project were favorable. Using learning centers and an integrated curriculum showed that relevant application of skills presented in an active learning environment led to meaningful discovery and student success. Students were enthusiastic and looked forward to what they would be engaged in upon entering school each day. Students who get fragmented pieces of knowledge never gain understanding. For students to maximize their potential and be successful in life they have to understand that knowledge is life. This understanding will be the foundation needed for students to grow and be life-long learners.

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CHAPTER 1

PROBLEM STATEMENT AND CONTEXT

General Statement of the Problem

Kindergarten students experienced difficulty transferring knowledge, thinking, reasoning, and problem-solving skills across the curriculum which interfered with their success in school. The existence of the problem included teacher observations, student assessments, and anecdotal records.

Immediate Problem Setting: Site A

Site A housed kindergarten through second grades, with a total enrollment of 616 students. The school building contained one floor. In the first wing there were three half-day early childhood special education classes, one multi-handicapped special education classroom, four kindergarten classrooms (eight sessions), and eight first grade classes. The second wing contained a primary readiness classroom, a learning disabilities classroom, eight second grade classes, library, music room, art room, Title 1 reading classroom, Title 1 mathematics classroom, and a Project R.E.W.A.R.D.S., a reading improvement program, classroom. In the central part of the building Site A had one learning disability resource room, two speech rooms, the social worker's office, the psychologist's office, a multipurpose gymnasium, an office for the curriculum

administrator, the principal's office, the main office, a teachers' workroom, and a state-of-the-art computer lab.

The staff at Site A was comprised of 67 workers, 65 female and 2 male. The average teaching experience for the district was 12 years. The faculty and staff included a principal, a curriculum and instruction administrator, teachers, teacher aides, art, music, physical education, library, and computer science teachers, three speech pathologists, occupational and physical therapists, a social worker, and a psychologist.

The district had established curriculum guidelines for each subject. At Site A students were taught the core subjects of math, reading, science, writing, social studies, music, art, computer science, and physical education.

Description of Community: Site A

Site A was part of a district in a southwestern suburb of Chicago. Site A was one of three schools in a medium-sized K-8 school district that served two suburbs. The district covered almost 18 square miles. The district had a primary, intermediate, and junior high center. As of fall, 1998, the district's total population was about 1,700 students. The primary center had a student population of over 600, the intermediate center had over 500 students, and the junior high center had an enrollment of over 500.

The racial/ethnic background of Site A's enrollment was: 95.7% White, 0.2% Black, 2.8% Hispanic, 1.0% Asian/Pacific Islander, and 0.3% Native American. Site A had 5.2% of its enrollment from low-income families. Site A had 0.2% of its enrollment as limited English proficient. Site A had a mobility rate of 7.7%. The attendance rate at Site A was 95.7%. The chronic truancy rate was 0.2%. The average class size for Site A was 24 students.

The district included a superintendent, three principals, three curriculum and instruction administrators, a business manager/assistant superintendent, a director of technology, and a director of software and programming.

The student enrollment of the district had increased by nearly 50% over the last 12 years. New residential land developments accounted for much of the recent growth. These developments attracted an increasing number of families with school-aged children. The housing market was stimulated by the future routing of an extension of an interstate highway. District enrollment was projected to increase by 4% annually due to the extension of this highway.

To accommodate the district's steady increase in enrollment, fifty-three acres of land were purchased and financed through new construction impact fees for a new junior high school. The primary and junior high buildings were close to being at their capacities for enrollment and the intermediate building was past capacity. The district had eighteen subdivisions being developed and over 750 lots were available for development. The district had already maximized space through renovations; locker rooms were converted to classrooms, closets were converted to offices, and art, music, and computer classes at the intermediate building were taught from a cart. The district had a referendum in spring, 1999, to get the needed support to build and equip a new junior high school.

Immediate Problem Setting: Site B

Site B was a preschool through second grade facility serving approximately 200 three-to-eight-year-old students. Architecturally, the building was one level with a multipurpose room in the center, surrounded by classrooms and open-space instructional areas. On one side were six classrooms which housed preschool through first grade rooms. The opposite side contained seven rooms which housed the second grade, computer room, special education, art, music, and

Chapter 1. There was an open area on either side of the building for library and large group activities. The building included instructional programs for preschool, at-risk students, early childhood students, Chapter 1 students, gifted students, special education students, and regular education students in kindergarten through second grade. Specialists in art, music, physical education, library, speech, occupational therapy, and social work support the school's faculty.

The preschool, at-risk program, titled "Little Learners," served approximately 38 district and six out-of-district students. The students met four days a week on a half-day schedule. The fifth day was used for parent training and home visits. The "Little Learners" program was a consortium of four school districts that served at-risk students within their boundaries. Site B's home district served as the administrative agent for the federally funded program. The program employed two full-time teachers, two teacher aides, and one secretary. The program was solely funded through a \$180,000.00 grant.

The early childhood program served handicapped preschoolers. Fourteen students met on a half-day schedule. One teacher and two teacher aides were assigned to the class. A special education cooperative was the administering agent for the program, and Site B's home district was a member of the cooperative.

The Chapter 1 program, which was federally funded, offered daily instruction to students qualified for the program. The gifted program, which met twice a week at Site B, provided an Accelerated Cognitive Experience (ACE) to students who qualified and was funded through state and local monies. One Chapter 1 and one gifted teacher were assigned to Site B.

An inclusion model was used for delivering services to instructionally handicapped students. Collaborative teachers provided instruction to identified handicapped students within the classroom. Collaboratively, certified special education teachers and regular education

teachers developed the students' individualized educational plans. Students received modified instruction from the grade level curriculum. Occasionally, students were pulled out of the regular classrooms for focused instruction. Site B had two full-time collaborative teachers serving approximately 20 students.

Site B was reopened after an eight year hiatus. The closing was the result of declining enrollment throughout the district. There were two schools within the district, with Site B designated as the primary school. Enrollment over the life of the district can be likened to a roller coaster. In the forty years since its inception, there have been periods of increasing enrollment, followed by years of declining enrollment, to its present day rate of increasing enrollment. The highest enrollment was recorded in 1965 when the district attained 700 students. The lowest number was in school year 1992 when the enrollment recorded 360 students. For the last several years the enrollment had been increasing, with the recorded enrollment in January of 1999 at 500, not including out-of-district special education students.

For more than a decade, the average ability of the students, as recognized by ability testing, had been declining. The majority of the students fell below nationally recognized ability levels. Many of the classrooms had a large proportion of students described as slow learners. This presented the problem of training teachers to meet the needs of their students.

Previous to the 1998-99 school year and the reopening of Site B, the most recent data were indicated by the 1998 district-wide School Report Card. Generally, the district had a majority of Black students which comprised 80% of the population. Whites were the next largest group at 15% of the population. Hispanics recorded 5% and the Asian/Pacific Islanders 0.2% of the population.

Low income students were from families receiving public aid, being supported in foster homes with public funds, or eligible to receive free or reduced-priced lunches. Over the last five years of reporting, the percentage of low income students had ranged from a low of 40% to a high of 50%. The last two years were quite similar, recording 50% for low income students.

Student mobility, as reported by the 1998 School Report Card, indicated an average of 12%, which was below the state average. The number of mobile students was very misleading because the data collected were from move-ins or move-outs after October 1 of each year. During the summer and prior to the initial registration of school in late August, the district realized 45% mobility. This was a result of a large subsidized housing complex where the leases were renewed or expired in June.

Class size at Site B for the regular programs, kindergarten to second grade, ranged from 23 to 25 students. The preschool programs of at-risk and early childhood were significantly smaller, ranging from 6 students in early childhood to 19 students in the at-risk program.

The teacher characteristics of the district compared favorably with the state characteristics. The total number of certified teachers in the district was 33, with an average teaching experience of 15 years. Of the 33 teachers in the district, approximately 40% had a master's degree or above; and approximately 60% had earned a bachelor's degree. The average teacher/student ratio was 18 to 1, which compared favorably to the state average of 20 to 1.

Description of Community: Site B

Site B was one of the first districts in the area to incorporate a computer program for all grades and install television sets in all rooms. In 1996 the district initiated a dress code policy requiring uniforms for all students.

The elementary school district contained approximately twenty-five square miles and was a low to middle income economic area. Although it was made up of 25 square miles, the greatest proportion of its students lived within one mile of each other. The other proportion of land was rural or devoted to agriculture. There appeared to be two distinct neighborhoods in the district: 1) a high density, low income area; and 2) a distributed middle income group from a rural area. The geography was changing rapidly with commercial and industrial property on the horizon. In the summer of 1998 a nationally recognized drag strip was introduced. In May of 1998, the drag strip hosted the Nationals that were televised live throughout the United States. More recently, a group of investors decided to build a top class, one-and-a-half mile, oval race track that held more than 75,000 spectators. This undertaking drastically affected the socio-economic level of the community.

Since its inception in 1953, the district had been characterized as a flat grant district. Relative to other school districts within the state, it may be described as wealthy. The district depended on local resources to support its programs. State aid made up about five percent of its resources. Corporate Personal Property Replacement monies provided 50% of its resources. Industrial properties made up about 60% of the value of real estate. With the addition of spectator sports, consisting of the race track, drag strip, and the auxiliary properties, the district can be viewed as wealthy with a higher wealth potential.

National Context of the Problem

Concern over students' abilities to transfer knowledge across curricular content areas has been a nationwide issue. Educational researchers have written that students' knowledge is superficial without a concrete understanding of what they have learned (Shanahan, Robinson, and Schneider, 1995).

Memorizing skills and concepts inhibits students' academic growth because they may not fully utilize the tools of application and transfer in later situations. Real life situations are not separated into individual academic areas or specific time frames but rather interwoven and correlated. Students need to make the connection among subject areas to succeed in this complex world (Barab and Landa, 1997).

For students to be successful in school they need to develop skills across curricular areas. Students need to see and make the connection that learning occurs not just in isolated blocks at set times of the school day. Educators and students cite repetitive work or work that requires little or no thought process as being the most disliked part of their day (Strong, Silver, and Robinson, 1995).

The development of a curriculum that incorporates the necessary transfer skills is essential to address these concerns and make students life-long learners. "For most young people, ...the separate subject approach offers little more than a disconnected and incoherent assortment of facts and skills. There is no unity, no real sense of it all" (Beane, 1995, p.616). Educators must become aware of the importance of adequately preparing their students with the skills necessary to meet the challenges of the twenty-first century. Educators should strive to meet all their students' needs using more creative, meaningful methods to help them achieve their academic potential.

CHAPTER 2

PROBLEM DOCUMENTATION

Problem Evidence

Kindergarten students have shown an inconsistent ability to transfer knowledge across the curriculum. Teacher observations, student assessments, and anecdotal records were used to collect evidence of the existence of the problem. An increasing concern of educators is the number of students who lack the ability to retain and actively use the skills taught across the school curriculum in their everyday lives. Twenty students in the targeted kindergarten classrooms were given a survey in the beginning of the school year (Appendix A). The following results were the students' perceptions of reading.

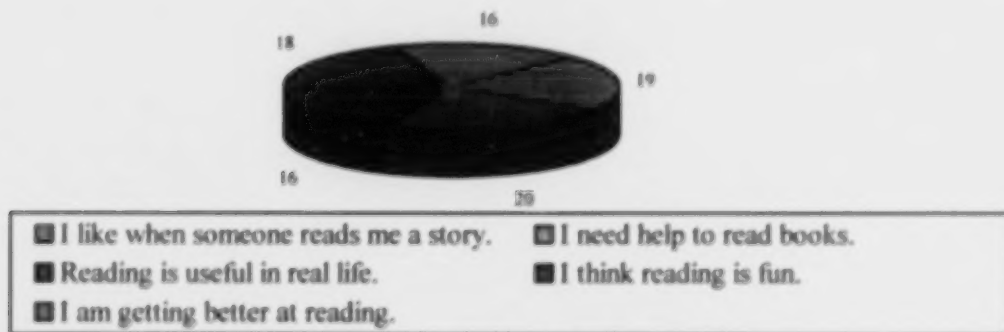


Figure 1. Kindergartners' perceptions of reading in the fall of 1999

The results of the survey taken from 20 kindergartners, indicated that the students' perceptions of reading were positive. The majority agreed that they enjoyed having someone read them a story. A large number of the students surveyed thought reading was useful in real life.

The outcome also showed that numerous students thought reading was fun. The students stated that they felt they were getting better at reading, although the students unanimously agreed that they needed help to read books. The results of the survey showed the students' perceptions of reading were enthusiastic.

Students in the targeted kindergarten classes at Site A and Site B have both experienced difficulty making the connection among skills and concepts across subject areas. The educational researchers noted a growing deficiency of kindergartners transfer skills on academic assessments. Students could demonstrate the skill in isolation, but had difficulty when transference of the skill was required. Teachers had observed students struggling with language arts skills when combined with other subject areas. Teachers maintained anecdotal records as a means of gathering information and to track the students strengths and weaknesses. A pattern was found among the students showing a lack of skills when required to use the skill outside of the subject area. These observations were noted as evidence of the existence of the problem. The data from Site A and Site B revealed that isolated subject areas and a segregated curriculum have shown that the students' needs were not being met. Figure 2 explains the students' perceptions of the uses of reading. Students at the kindergarten level do not see themselves as using reading or being able to read according to the student survey.

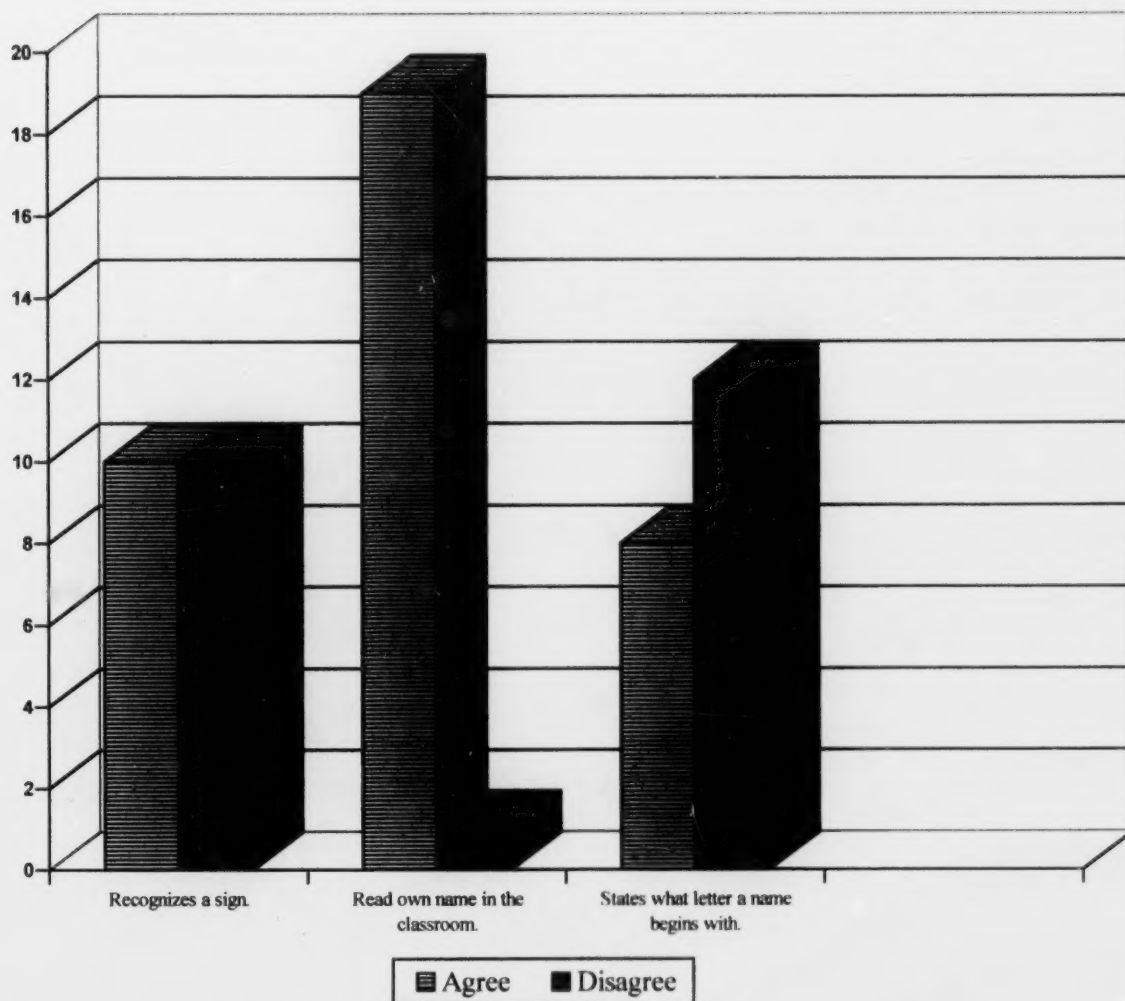


Figure 2. Students' perceptions of the uses of reading in the fall of 1999

Figure 2 showed that kindergarten students viewed the uses of reading differently. The majority of students agreed that they could read their name; however, only half the students stated they could read a sign outside the classroom. Less than half of the students could name the beginning letter of a family members' name. Figure 2 showed that while students enjoyed reading, they did not see themselves as using reading skills in every day life.

Some teachers and students seem to be bored with traditional teaching and learning styles. Students do not actively participate; therefore, skills are not being mastered or applied in acquiring new information. This lack of active participation seems to foster the lack of self-esteem and motivation in students, consequently affecting their academic performance. Enthusiasm for learning is lacking in many of our schools; yet, acquiring these skills is essential for students if they are to survive in the real world. Figure 3 shows the level of students' language arts skills upon entering kindergarten (Appendix B).

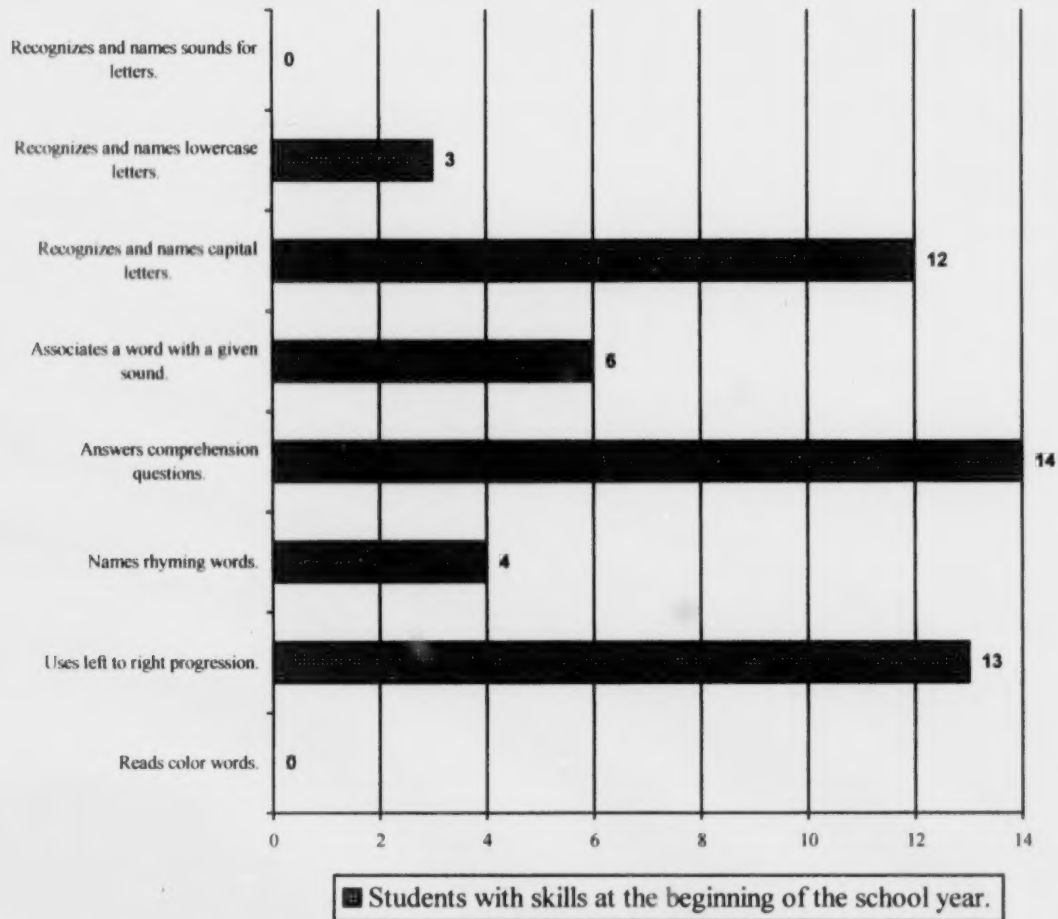


Figure 3. Students' beginning language arts skills

Figure 3 illustrated kindergarten students' language art skills. Although students exhibit the isolated skill of naming letters, they lack the ability to transfer this skill to reading. The results revealed that these skills needed improvement.

Causes of the Problem

Students experienced difficulty in the transfer of knowledge across curricular areas due to the isolation of subject areas, an absence of active learning, and a segregated curriculum. Constructivist theorists Vgotsky, Piaget, and Dewey have defined learning as the new knowledge an individual creates within the context of existing knowledge. Theorists and researchers suggest a change in the focus of instruction and teaching from curriculum content to making connections with the learners' knowledge. This would be a major challenge to teachers and a shift in existing methods (as cited in Darling-Hammond, 1996).

Information in all discipline areas is growing at amazing rates. The amount of new knowledge in a given subject doubles every decade. Technology, for example, becomes obsolete in five to seven years. Since textbooks drive the curriculum in most districts, the typical kindergarten-twelfth grade curriculum has become overwhelmed with fragmented facts and lacks unifying learning connections that inspire students to want to be life-long learners (Pickard, Travis, and Lang, 1994).

Students are reluctant or unable to recognize and use knowledge they have to help them solve new problems or understand related concepts. The segregated clustering of subject area instruction often prevents students from identifying important connections among the subjects they study (Mathison and Mason, 1989).

Pestalozzi, Froebel, Piaget, and Dewey have all suggested in their writings that learning be based on the interests of the students, and that instruction be active and orientated to encourage

multi-sensory learning. They believed that children need time to explore, experiment, and play with materials in order to learn (Strickland and Morrow, 1990). The current research on the function of the brain makes a strong case for integrative education. There are emergent properties of the brain as a whole that cannot be recognized or understood when isolated. To be effective, learning must be viewed as a multi-faceted part of education (Caine and Caine, 1997).

Educators are continuously searching for a framework to coordinate and validate instructional techniques and align the learning practices with the developmental levels, strengths, and interests of their students (Nelson and Frederick, 1994). A more holistic, natural, and integrated form of instruction is being sought to effect positive changes in the field of education.

There are differing views of the need for educational reform. Some educators prefer academic disciplines taught separately while others prefer an integration of skills within the curriculum shaped by the needs of today's information rich world. Critics claim the idea of dissolving traditional subject boundaries is unfounded and just a fad (Walker, 1995).

Students in the targeted kindergarten classes at Site A and Site B have both experienced difficulty making the connection across subject areas. This lack of ability to transfer knowledge across the curriculum is evidenced by the deficiency of skills on assessments that indicated students' academic performance, teacher observation, and anecdotal records. Educators have noted that by using an isolated curriculum focusing on the quantity of skills taught rather than the quality of methods used, students do not see and cannot make the transfer of knowledge and skills across curricular areas and students lack active learning and retention of skills. The isolation of skills taught in the curriculum do not meet the diverse learning styles and needs of kindergarten students.

CHAPTER 3

THE SOLUTION STRATEGY

Review of the Literature

Analysis of the probable cause data revealed that the lack of transfer skills is a major concern of educators. Researchers have suggested the following probable causes: isolated subject areas, absence of active learning, and a segregated curriculum. Educators are continuously challenged to find effective techniques to teach all the students in their classroom. Conventional teaching has not immersed students in a rich academic environment or encouraged exploration and responsibility. For the most part, academics have consisted of a skills-driven program with a great deal of practice exercises from commercial publishers. The traditional view is that student learning has been passive, directed, and dependent, rather than active, self-directed, and independent (Dixon, 1994). In many cases, learning has been more about memorizing facts than understanding processes. A process approach to learning starts where the child is, provides many opportunities for real-life, open-ended problem solving, and guides learners to construct their own understandings. Conferencing with other students and sharing with peers are integral parts of the program (Routman, 1991). Educators should allow students to experience active learning so they will be able to survive in the real world (Dixon, 1994).

Currently, the trend is to break down disciplinary boundaries and unify the curriculum by bringing subjects together in a coherent program (Shanahan, 1997). In a traditional curriculum classroom with isolated subject instruction, students are given disconnected and fragmented pieces of information and skills (Beane, 1995). Educators must make a commitment to engage their students in learning, making connections between the subject matter and students' interests (Perkins and Blythe, 1994). Teachers face the challenge of keeping their most talented students interested while supporting their less able students, so that all students can meet success in their classroom (Weerstra, 1997). Teachers search for strategies that will prepare students for whatever they will need to know to survive in the twenty-first century. The responsibility of educators is to teach students how to think, how to get along with others, how to solve problems, and how to make meaningful decisions for the future and the realities of the world in which we live (Cangemi and Aucoin, 1996).

Educators have a hard time appreciating the difficulty that is involved in transferring knowledge from one domain to another. "Unless one takes the 'high road to transfer' and helps students to see explicitly the connections (and non-connections) between domains, generalization and transfer will not occur with any reliability" (Gardner, 1997, p.17). Transference is defined as a "phenomenon in which something learned in one situation is carried over to another..." (Perkins and Salomon, 1988, p. 201). Students need to see how learning is useful and the connection between the application, use, and transfer of knowledge.

Sources in the research of literature have stated that thematic units can be used as a means of developing transfer skills. According to Fredericks, Meinback, and Rothlein, (1993)

"a thematic approach to learning combines structured, sequential, and well-organized

strategies, activities, children's literature, and materials used to expand a particular concept. A thematic unit is multi-disciplinary and multi-dimensional; it knows no boundaries. It is responsive to the interests, abilities, and needs of students and is respectful of their developing aptitudes and attitudes" (p.5).

Researchers have also described an integrated curriculum as

"...education that is organized in such a way that it crosses subject-matter lines, bringing together various aspects of the curriculum into meaningful association to focus on broad areas of study. It views learning and teaching in a holistic way and reflects the real world, which is interactive" (Shoemaker, 1989, p.793).

Students in classes with traditional instruction are often reluctant or unable to recognize and use the knowledge they have to solve problems and to understand new, related concepts. This is due to the ways in which those students initially acquire information. In an educational era where the emphasis is placed on specialized knowledge, the segregated clustering of instruction in subject areas prevents students from making connections among the subjects they study (Mathison and Mason, 1989). To facilitate child-centered learning, instruction should promote an integration of the subject areas with content area objectives. Just as no two people are exactly the same, each being individually unique in their genetic composition as well as their individual experiences, there are major differences in the way students learn, make decisions, and interact with each other and their world. An integration of learning styles will enhance students' strengths and allow students to make sense of the knowledge being taught.

Teachers are faced with the challenge of finding a balance between effective curriculum and meaningful instruction. Research on the ways students learn provides a strong rationale for the importance and value of integrated curriculum and instruction. In the primary grades, learning

centers encourage students to explore, construct their own knowledge, and interact socially with peers. Daily instruction should include a variety of methods and techniques. Ideally, students should experience a mixture of whole group instruction, cooperative learning groups, peer tutoring, flexible small groups based on student needs, and exposure and opportunities to explore technology (Ramey, 1995). "Young students are interested in the entire world around them...it does not make sense to them to say 'math' or 'social studies' when instruction jumps from one discipline to another every 45 minutes..." (Willis, 1992, p.2).

Another issue being addressed in education is whether subjects should be taught in isolation or in an integrated curriculum. When we think of traditional education we think of students moving through the school day, subject by subject, and teacher by teacher (Gatewood, 1998). The subject centered approach separates academic disciplines into specific time blocks. Educators have been led to believe that the purpose of education is to collect and master facts and skills that have been selected in various subjects without learning how these isolated elements might be used to solve real-life problems (Beane, 1992).

Although separate subjects are important, they should not be taught in isolation. In the real world, knowledge is not used or developed in isolated fragments (Gatewood, 1998). While subject-bound education treats students as passive learners, requiring them to feed back fragments of skills and facts given them, an integrated education promotes the construction of critical thinking skills that requires students to use information in new, realistic contexts (Walker, 1995). "Students best learn skills and concepts as tools to meet present demands rather than as facts to be memorized today in hopes of application tomorrow" (Barab and Landa, 1997, p. 52). By applying what is learned in a meaningful context, students will strengthen their pursuit of knowledge (Lolli, 1996). Students who have been taught in subject centered classrooms are ill-

equipped to participate in the open-ended inquiry process required in the integrated classroom. (Gatewood, 1998). Researchers have stated their concerns for a subject centered curriculum and have pointed towards an integrated classroom as a possible solution.

Curriculum integration sounds exciting and intriguing, but the implementation would require most teachers to modify and change their teaching styles (Lounsbury, 1996). Interdisciplinary education requires school reform. It is not a simple pedagogical technique like cooperative learning. An interdisciplinary curriculum requires a complicated, holistic, developmental, and interactive process for which there is no exact blueprint. "It takes most interdisciplinary teams years to acquire a viable working knowledge of what, when, and how their colleagues teach" (Panaritis, 1995, p.624). An effective interdisciplinary curriculum can only exist if teachers are given time to reflect on their own teaching, to collaborate with co-workers and to actively involve students in the learning process (Castanos, 1997).

Interdisciplinary education is school reform, and therefore, is not simple or painless (Panaritis, 1995). There are several obstacles that stand in the way of interdisciplinary efforts. One obstacle is the lack of teacher planning time. Teachers need time to learn, plan, implement and evaluate as a team. Another commonly cited obstacle is the structure of the school day. Traditionally, classes are allotted short blocks of time which do not allow for in-depth investigation. Teachers can also be obstacles. Many teachers will fight to defend their subjects if they feel their territory is being threatened. Materials such as textbooks, tests and report cards are obstacles because they are designed to teach isolated subject matter. Students and parents can also be obstacles because they may be resistant to change. They may be reluctant to accept a curriculum that is different from their own experiences (Willis, 1992). Regardless of the odds

against it, interdisciplinary education is probably the most effective and exciting way to bring about genuine school reform (Panaritis, 1995).

Research has been conducted on how students learn. This research shows that the brain organizes new knowledge on the basis of previous experiences and the meaning developed from those experiences. The human brain is a very complex adaptive system. One of the most potent features of the brain is its capacity to function on many levels and in many ways simultaneously. Cromwell (1989) reported that the brain processes many things at the same time; therefore, holistic experiences are recalled easily and quickly. Shoemaker (1989) writes that the brain actually seeks patterns which will aid in its search for meaning. Caine and Caine (1991) stated that because the brain searches for meanings and patterns, it may resist learning fragmented facts presented in isolation. Because research attests that the brain distinctly seeks patterns and we can remember and retrieve information better when it is embedded in a meaningful context, an integrated curriculum would promote the building of broad "mental programs" that would compel students to use skills and information in new, realistic contexts (Walker, 1995). It is well known that students each have their own learning style related to their unique brain. To meet the diverse needs of students, based on their unique learning styles, choices should be provided. Children do not learn things but elaborate contexts of things. The rote memory system allows for memorizing isolated facts, but, this system alone is inefficient. The adaptive memory, locale memory, or context memory system is much more powerful for internalizing networks of relationships. For this reason, the associational model of learning is widely used. This process of constructing associational webs begins at a very early age and it appears to be innate and automatic (Mason, 1994). For these reasons, integrating the curriculum represents an effective way of transforming

knowledge into personally useful tools for acquiring new information and avoiding fragmentation and extraneous achievement of isolated facts (Lipson, Valencia, Wixson, and Peters, 1993).

Using thematic units is one of the most popular methods of integrating the curriculum. Thematic teaching is a way of organizing instruction around themes as opposed to organizing around subject areas. By organizing around themes, students are actually encouraged to take a position or state a point of view or perspective.

A topic such as "monkeys" does not allow for students to pursue ideas that support or challenge a particular point of view. But a theme such as "Adaptations for Survival" is something to be explored in cooperation and collaboration with others. By using thematic teaching, it is possible to integrate instruction in a relevant, more authentic fashion across subject areas. As a result of using thematic teaching, students acquire a more in-depth understanding of what they learn. Thematic instruction helps to expose the scope of what is taught without reducing the quality through flexibility and focus of teaching (Shanahan, Robinson, and Schneider, 1995).

According to researchers, along with interest, challenge, and enjoyment, there are many other advantages for students of cross-curricular thematic instruction. Thematic instruction enables students to enhance communication, investigation, reading, writing, listening, speaking, and thinking skills using many different kinds of materials for varied purposes. By using prior knowledge and past experiences students interact, make choices, collaborate, and cooperate to apply what they have learned in developing new knowledge. Students, regardless of their ability, are able to participate and learn through first-hand experiences, self-initiated discoveries, and time to explore topics (Vogt, 1997).

Advantages of using thematic instruction for teachers include relinquishing control and assisting students in accepting ownership for their learning, developing a community of learners

with emphasis on collaboration and cooperation, authentic use of language arts concepts (writing, listening, reading, and speaking), and providing numerous learning experiences through the development and implementation of the units.

An examination of the literature has shown that using various teaching techniques, developing lessons to meet the varying needs of students today, and teaching multidisciplinary units strengthens student learning. Brain research supports the need for an integrated curriculum in order for children to be actively engaged in their learning. Upon reflection of the literature, the researchers plan to develop thematic units and learning centers as a means of improving student achievement and developing transfer skills. The research team will integrate language arts skills throughout the curriculum and compare the kindergarten students' abilities to achieve and transfer skills before and upon completion of the implementation of the plan.

Project Objectives and Processes

As a result of using thematic units during the period of September, 1999, through February, 2000, the kindergarten students from the targeted classes will increase achievement as measured by observational checklists, academic assessment, and anecdotal records.

The following processes will be utilized to accomplish this objective:

1. Create multidisciplinary lessons.
2. Develop thematic units that will enrich multidisciplinary lessons.
3. Integrate language arts skills throughout the curriculum.
4. Maintain observational checklists to monitor the specified activities.
5. Track students' academic achievement at the beginning, middle, and completion of the plan.

As a result of implementing learning centers during the period of September, 1999, through February, 2000, the kindergarten students from the targeted classes will increase their transfer skills as measured by observational checklists, student assessments, and anecdotal records.

In order to accomplish this objective, the following processes are necessary:

1. Implement learning centers that integrate subject areas.
2. Develop centers that address students' learning styles.
3. Create a schedule for implementation that allows all students to participate in learning centers, work cooperatively, and meet success.

Project Action Plan

The following action plan was designed to address the problem of kindergarten students' lack of retention and transference of skills across subject areas. The solutions chosen for intervention in the targeted classrooms were learning centers and thematic units. The researchers planned to use monthly themes that incorporated learning centers into the thematic unit to improve their kindergartners' language arts skills.

The research team has designed and will administer a baseline assessment of language arts skills during the beginning of the 1999-2000 school year. During the course of the plan, teachers will keep anecdotal records and observational checklists (Appendix C) of the students' progress. In the middle and at the end of the plan, students' achievement in language arts will be assessed.

To meet the needs of the kindergarten classroom, the research team has decided to implement monthly thematic units and daily learning centers into the curriculum of their classrooms. The research team has developed a plan to maintain five learning centers: mathematics, language arts, science/social studies, creative writing, and computer science. By implementing this plan, the learners within these classrooms will demonstrate growth and success in their retention and transference of knowledge across subjects.

Week 1:

Give students assessment of language arts skills to determine baseline.

Week 2:

Introduce the thematic unit. Introduce the letter, number, and shape for the week. Develop learning centers around the theme and objectives for each subject area. Read books, sing songs, and create art projects related to the theme and objectives. Maintain observational checklists and anecdotal records.

Week 3:

Continue with the thematic unit. Introduce the letter, number, and shape for the week. Review skills learned to date. Maintain learning centers around the theme and objectives for each subject area. Read books, sing songs, and create art projects related to the theme and objectives. Maintain observational checklists and anecdotal records.

Week 4:

Continue with the thematic unit. Introduce the letter, number, and shape for the week. Review skills learned to date. Maintain learning centers around the theme and objectives for each subject area. Read books, sing songs, and create art projects related to the theme and objectives. Maintain observational checklists and anecdotal records.

Week 5:

Continue with the thematic unit. Introduce the letter, number, and shape for the week. Review skills learned to date. Maintain learning centers around the theme and objectives for each subject area. Read books, sing songs, and create art projects related to the theme and objectives. Maintain observational checklists and anecdotal records.

Week 6:

Introduce the new thematic unit. Introduce the letter, number, and shape for the week. Review skills learned to date. Develop learning centers around the theme and objectives for each

subject area. Read books, sing songs, and create art projects related to the theme and objectives.

Maintain observational checklists and anecdotal records.

Week 7:

Continue with the thematic unit. Introduce the letter, number, and shape for the week.

Review skills learned to date. Maintain learning centers around the theme and objectives for each

subject area. Read books, sing songs, and create art projects related to the theme and objectives.

Maintain observational checklists and anecdotal records.

Week 8:

Continue with the thematic unit. Introduce the letter, number, and shape for the week.

Review skills learned to date. Maintain learning centers around the theme and objectives for each

subject area. Read books, sing songs, and create art projects related to the theme and objectives.

Maintain observational checklists and anecdotal records.

Week 9:

Continue with the thematic unit. Introduce the letter, number, and shape for the week.

Review skills learned to date. Maintain learning centers around the theme and objectives for each

subject area. Read books, sing songs, and create art projects related to the theme and objectives.

Maintain observational checklists and anecdotal records.

Week 10:

Give students assessment of language arts skills. Maintain observational checklists and anecdotal records.

Week 11:

Introduce the new thematic unit. Introduce the letter, number, and shape for the week.

Review skills learned to date. Develop learning centers around the theme and objectives for each

subject area. Read books, sing songs, and create art projects related to the theme and objectives.
Maintain observational checklists and anecdotal records.

Week 12:

Continue with the thematic unit. Introduce the letter, number, and shape for the week.
Review skills learned to date. Maintain learning centers around the theme and objectives for each subject area. Read books, sing songs, and create art projects related to the theme and objectives.
Maintain observational checklists and anecdotal records.

Week 13:

Continue with the thematic unit. Introduce the letter, number, and shape for the week.
Review skills learned to date. Maintain learning centers around the theme and objectives for each subject area. Read books, sing songs, and create art projects related to the theme and objectives.
Maintain observational checklists and anecdotal records.

Week 14:

Introduce the new thematic unit. Introduce the letter, number, and shape for the week.
Review skills learned to date. Develop learning centers around the theme and objectives for each subject area. Read books, sing songs, and create art projects related to the theme and objectives.
Maintain observational checklists and anecdotal records. ..

Week 15:

Continue with the thematic unit. Introduce the letter, number, and shape for the week.
Review skills learned to date. Maintain learning centers around the theme and objectives for each subject area. Read books, sing songs, and create art projects related to the theme and objectives.
Maintain observational checklists and anecdotal records.

Week 16:

Continue with the thematic unit. Introduce the letter, number, and shape for the week.

Review skills learned to date. Maintain learning centers around the theme and objectives for each subject area. Read books, sing songs, and create art projects related to the theme and objectives.

Maintain observational checklists and anecdotal records.

Week 17:

Introduce the new thematic unit. Introduce the letter, number, and shape for the week.

Review skills learned to date. Develop learning centers around the theme and objectives for each subject area. Read books, sing songs, and create art projects related to the theme and objectives.

Maintain observational checklists and anecdotal records.

Week 18:

Continue with the thematic unit. Introduce the letter, number, and shape for the week.

Review skills learned to date. Maintain learning centers around the theme and objectives for each subject area. Read books, sing songs, and create art projects related to the theme and objectives.

Maintain observational checklists and anecdotal records.

Week 19:

Continue with the thematic unit. Introduce the letter, number, and shape for the week.

Review skills learned to date. Maintain learning centers around the theme and objectives for each subject area. Read books, sing songs, and create art projects related to the theme and objectives.

Maintain observational checklists and anecdotal records.

Week 20:

Give students assessments of language arts skills. Complete observational checklists and anecdotal records.

Methods of Assessment

The effects of the interventions used with the kindergarten students were assessed by administering a student assessment of developmentally appropriate language arts skills at the beginning of the action plan implementation, at the end of the first quarter, and at the end of the project. Students also completed, with teacher assistance, student surveys and anecdotal records of their feelings and attitudes towards reading and school. An observational checklist of students' progress with kindergarten language arts skills was maintained by the educational researchers throughout the action research project. Weekly learning centers were planned and maintained to encourage and promote cross content learning experiences for the students.

CHAPTER 4

PROJECT RESULTS

Historical Description of the Intervention

The objective of this project was to improve the targeted kindergarten students' transfer skills across subject areas and set a strong foundation for learning that benefits students throughout the rest of their academic years. Making learning fun and meaningful to the kindergartners while helping them to see how the subject areas, skills, and concepts are interrelated, was a priority of the educational researchers. Learning centers and an integrated curriculum were chosen as interventions to increase students' abilities to transfer skills across subject areas.

The first intervention used to improve the kindergartners' transfer skills was to incorporate learning centers into the students' daily schedule (Appendix D). Learning centers were designed around thematic units for the targeted kindergarten classrooms. Students were engaged in learning in five curricular areas. The centers encompassed mathematics, language arts, science and social studies, creative writing, and computers. Students were in heterogeneous groups of four to five members. Each group participated in one learning center for twenty-five minutes each day. By the end of the week, students had completed all five learning centers.

The second intervention was to integrate the curriculum to make the most of the time the students were in school. Rather than teach the language arts skills in isolation, the skills were blended throughout the curriculum. The facilitators focused on a monthly theme and a letter, color, color word, shape, and number for each week. The researchers integrated these skills throughout each of the five learning centers (Appendix E).

To assess the kindergarten students' progress in transferring skills and concepts across curricular areas, the educational researchers developed and maintained a time line, conducted student surveys, compiled anecdotal records, gave student assessments, and made observations. These instruments were valuable tools to track students' progress throughout the action research project. The researchers utilized observational checklists and anecdotal records continuously through the action research project. Students were given an assessment of language arts skills on three separate occasions during the action research project. Students were surveyed on their perceptions of reading at the beginning and at the end of the project. The researchers maintained a weekly record of the lessons presented for each skill and concept that was introduced.

Through the use of a time line, the researchers were able to plan and integrate skills across the learning centers. Each week the educational researchers developed new learning centers which integrated the theme and letter of the week. The lessons for each center were recorded weekly as a means of maintaining and tracking the students' progress. Activities for each center were designed to promote engaged learning, cooperative learning, develop multiple intelligences, and improve social skills, while also addressing the needs of the students and requirements of the mandated curriculum.

Throughout the action research project, students were given an oral assessment of their beginning language arts skills. The students' baseline assessment measured their ability to read

color words, use left to right progression, name words that rhyme, answer comprehension questions, associate a word with a given sound, recognize capital and lowercase alphabet letters, and name the initial sounds for given letters. Students were assessed on these skills at the ten and twenty week marks of the action plan.

Additionally, the educational researchers gave the targeted students a survey of their perceptions of reading at the beginning and at the end of the action research project. Students were asked if they agreed or disagreed with certain statements about their perceptions of reading. Furthermore, students were asked about situations which required reading. Students were also given the opportunity to draw a picture of themselves reading. Lastly, students were asked to comment on their perception of what they excelled at in school.

Throughout the action research project, educational researchers maintained anecdotal records of the kindergartners' progress with the targeted skills. Through the use of the action research project journal, the educational researchers were able to document the comments students made. Work samples were collected for the educational researchers to compare students' growth and development. Notations were made regarding the progress of the action research plan.

The educational researchers used observational checklists to track the progress of the targeted students at various intervals in the action research project. As the researchers observed the targeted students exhibiting specific skills, the date and the skill were noted on the observational checklist. The educational researchers utilized observational checklists several times throughout the action research project during various activities.

Presentation and Analysis of Results

In order to assess students' ability to transfer skills across subject areas, the facilitators created and utilized a student assessment to gather data for the 20 project participants' language arts skills. Observational checklists were used to show the development of a student's growth.

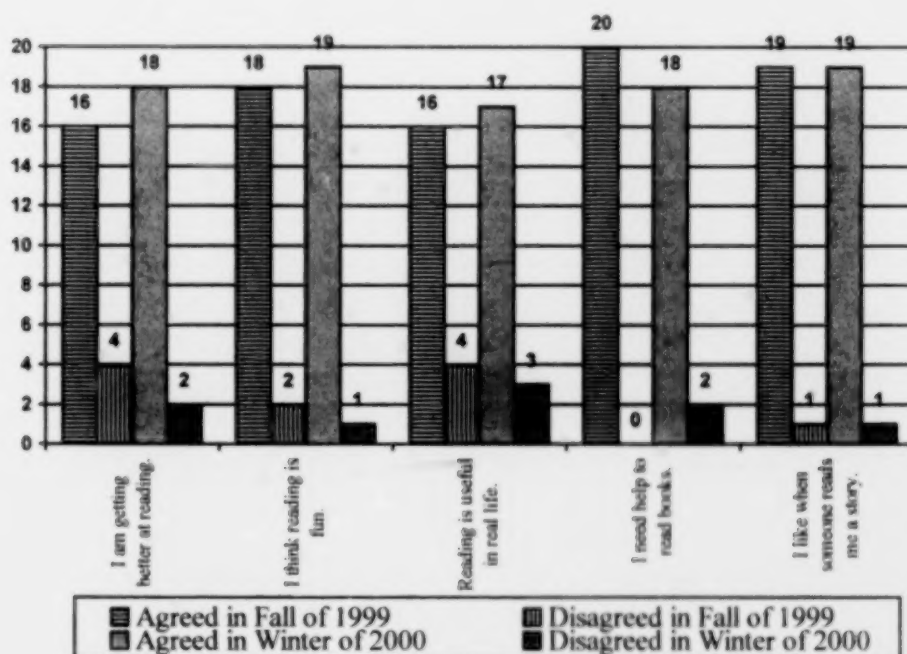


Figure 4. Comparison of kindergartners' perceptions of reading from fall, 1999 to winter, 2000

Figure 4 reflects the results of the student survey used in the action research plan. The results show a positive change in the students' perceptions of reading from the beginning until the end of the action research plan. The final results showed that the students felt they were better readers by the end of the project. An increase was also shown in the students' enjoyment of reading. When the final surveys were given, a greater number of students agreed that reading is useful in real life. Fewer students felt they needed help to read books, which indicated an

improvement from the fall survey. The results revealed no change in the number of students who liked someone to read to them. In reflection, Figure 4 illustrates a positive increase in the targeted students' perceptions of reading.

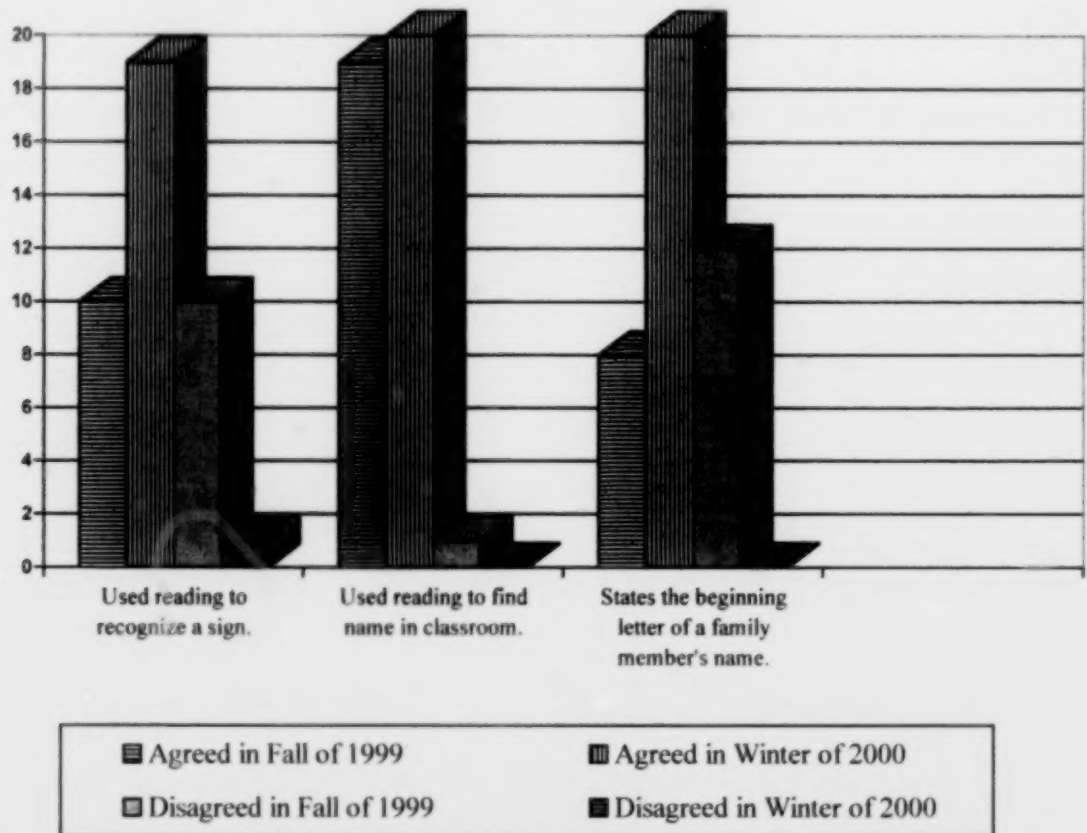


Figure 5. Comparison of students' perceptions of reading uses from fall, 1999 to winter, 2000

Students' perceptions of the uses of reading are reflected in Figure 5. There was an increase in the number of targeted students who used reading to recognize a sign. A slight increase was found in the number of students who used reading to find their name in the classroom. There was an increase in the number of students who could state the beginning letter of a family members' name. The educational researchers found increases in all of the students' perceptions of the uses of reading.

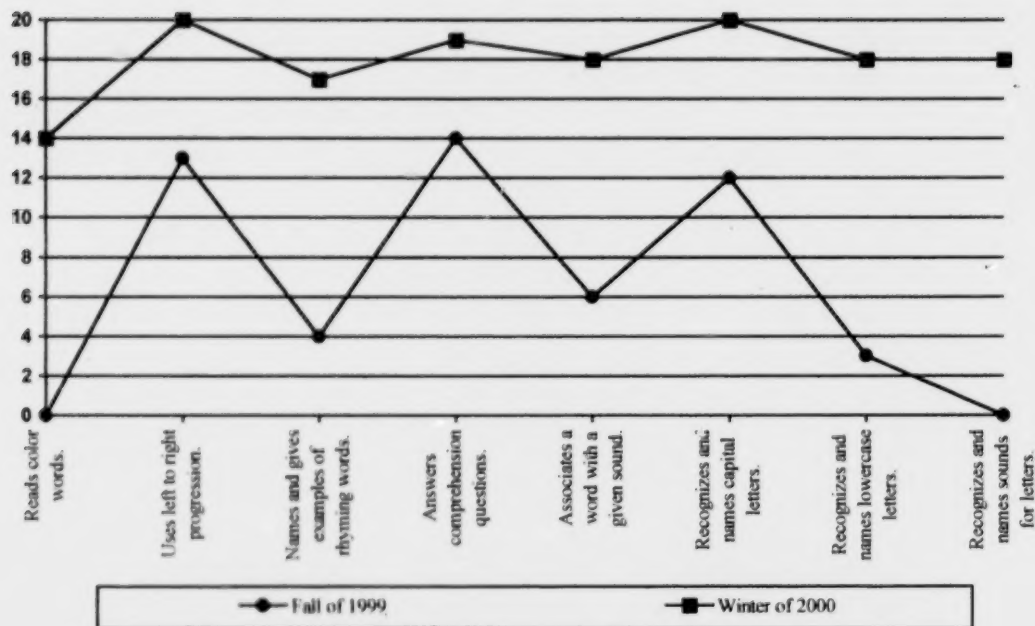


Figure 6. Comparison of students' beginning and ending language arts skills

Figure 6 visually depicts the improvement in the kindergartners' targeted language arts skills from the beginning until the end of the action research project. When the project began, none of the students could read color words, whereas at the completion of the project, almost three-fourths of the targeted students could read the nine basic color words. A little more than half of the students began the school year knowing how to use left to right progression. At the time of the final assessment, all action research project participants could use left to right progression. A minimal number of students began the year being able to name and give examples of rhyming words. At the end of the project time frame, the number increased to more than three-fourths of the targeted students. The number of students who could associate a word with a given sound increased by the end of the action research project. Beginning the project, a little more than half of the students could name capital letters of the alphabet, whereas at the end all of

the targeted students had acquired this skill. One-fourth of the students began the year naming lowercase letters of the alphabet. When the project was completed, the number of students increased to more than three-fourths. When the action research project began, no students were able to recognize and name the sounds for the targeted letters. At the project's completion, the number increased to almost all the action research participants. Overall, the targeted kindergarten students made improvements and increased their skills in language arts throughout the action research project.

Conclusions and Recommendations

In conclusion, the educational researchers' concern over students' lack of ability to retain and actively use the skills taught created the need to investigate the causes and possible solutions for such a problem. Based on the analysis of the data, the action research team concluded that engaged learning centers and an integrated curriculum developed better understanding and transfer of skills across subject areas. The data collected reflect the kindergartners' growth and development of the targeted language arts skills over a 20 week period. The action research team found that students who were actively engaged in learning were able to retain skills and concepts and transfer them across the curriculum. The results show a greater advantage to using integrated teaching methods versus teaching skills in isolation. Actively engaged students develop the ability to transfer skills needed to piece together information across subject areas.

One of the challenges the action research team encountered was creating and maintaining integrated learning centers. The team had to adjust the teaching methods used and develop means of integrating language arts skills throughout the learning centers. Another challenge was to help the students understand how to use new knowledge in meaningful situations. Carrying the targeted language arts skills throughout other subject areas was the goal. For example, when the

letter "Dd" was introduced, the team brainstormed ideas to integrate the skills throughout the five learning centers. For the math center, manipulatives that began with the letter Dd, such as dominos, dice, and dots, were used. The science and social studies center incorporated dinosaur activities. The creative writing center used a journal writing prompt, "Dd is for dollar". The computer center had dot-to-dot and letter recognition programs. The language arts center included finding Dd pictures and words in print and magazines. The challenge for the team was to promote learning while actively engaging students in meaningful discovery.

The educational researchers observed several rewards as a result of the action research project. The targeted students improved their language arts skills and developed a love of learning. The students anticipated daily learning centers and one kindergarten student even stated, "It's real fun to me. Some kids like to do playtime, but I like all centers a lot." The students worked cooperatively in groups while completing learning centers, and as a result, students developed appropriate social skills. The researchers noted an increase in students' confidence as they accomplished the targeted language arts skills. Several students made positive remarks such as, "I'm good at reading color words!" and "I'm good at working with the kids at my table" when the student survey were completed.

The results of the action research plan have shown that memorizing skills produces familiarity, but a relevant application of the skill is needed to form understanding. The educational researchers found satisfaction when the interventions selected gave the targeted students the success the researchers knew they could have. For students to be successful in school, educators must continue to grow and develop their knowledge and understanding. If educators find passion in their teaching, it will entice children to be passionate about learning. For

students to achieve a strong educational foundation, it is imperative that the educational professionals strive to continue to utilize the best practices and means available for the students.

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APPENDIX A

Student Survey/Anecdotal Record

Circle the ones that you think are true.

I like when someone reads me a story.

I need help to read books.

Reading is useful in real life.

I think reading is fun.

I am getting better at reading.

**Write something in the star that
you do best in school.**



**Draw a picture of yourself
or someone reading.**



**Circle what you have used reading
for lately.**

recognized a sign when you were
riding in the car or bus

found your name within the classroom

can state the beginning letter of
a family member's name

Other _____

APPENDIX B

Student Assessment

Skill	Beginning	1 st Quarter	2 nd Quarter
Knows color word red			
Knows color word blue			
Knows color word yellow			
Knows color word green			
Knows color word white			
Knows color word orange			
Knows color word brown			
Knows color word purple			
Knows color word black			
Uses left to right progression			
Names rhyming words			
Comprehension			
Associates word with a given sound			
Recognizes capital B			
Recognizes capital T			
Recognizes capital M			
Recognizes capital A			
Recognizes capital F			
Recognizes capital D			
Recognizes capital S			
Recognizes lowercase b			
Recognizes lowercase t			
Recognizes lowercase m			
Recognizes lowercase a			
Recognizes lowercase f			
Recognizes lowercase d			
Recognizes lowercase s			
Names sound for Bb			
Names sound for Tt			
Names sound for Mm			
Names sounds for Aa			
Names sound for Ff			
Names sound for Dd			
Names sound for Ss			

APPENDIX C

Observational Checklist

Skill	Date	Date	Date
Identifies rhyming words			
Recognizes letter names			
Matches capital and lowercase letters			
Discriminates between letter sounds			
Recognizes basic color words			
States word for given sound			

APPENDIX D

Action Plan Time Line

Week	Theme	Letter	Number	Shape/ Color	Math Center	Language Arts Center	Science/ Social Studies Center	Creative Writing	Computer/ Free Time
1	Welcome								
2	Fall Festival	Bb	1	square					
3	Fall Festival	Tt	2	triangle					
4	Fall Festival	Mm	3	circle					
5	Fall Festival	Aa	4	rectangle					
6	Halloween	Ff	5	diamond					
7	Halloween	Dd	6	oval					
8	Halloween	Ss	7	black					
9	Halloween	Hh	8	orange					
10	Assessment								
11	Thanksgiving	Ww	9	white					
12	Thanksgiving	Ii	10	brown					
13	Thanksgiving	Pp		yellow					
14	Holidays	Oo	11	red					
15	Holidays	Gg	12	green					
16	Holidays	Cc							
17	Solar System	Ll	13	blue					
18	Solar System	Ee	14	purple					
19	Solar System	Rr	15	pink					
20	Assessment								

APPENDIX E

Learning Center Activities

Week 1**Theme:** Welcome

Introduction to centers.

Discussion of appropriate social skills.

Make T-chart of what learning centers look and sound like.

Discuss what will and will not happen during center time.

Week 2**Theme:** Fall Festival**Letter of the Week:** Bb**Number for the Week:** 0,1**Shape for the Week:** square**Math Center:** Students will make a square face with construction paper and various size square cutouts.**Language Arts Center:** Students will practice their fine motor development by stringing beads.**Science/Social Studies Center:** Students will practice their fine motor development with lacing shapes.**Creative Writing Center:** Students will practice their fine motor development with tracing stencils.**Computers/Free Time Center:** Students will be introduced to and have a chance to utilize age appropriate computer software.**Week 3****Theme:** Fall Festival**Letter of the Week:** Tt**Number for the Week:** 2**Shape for the Week:** triangle**Math Center:** Students will make a triangle face with construction paper and various size triangle cutouts.**Language Arts Center:** Students will practice copying and making their own two color pattern with unifex cubes.**Science/Social Studies Center:** Students will create a fall using crumpled brown paper for the trunk, tissue paper for the leaves, and shiny red, green, and yellow paper for apples.**Creative Writing Center:** Using cheerios and glue, students will trace their first names.**Computers/Free Time Center:** Students will utilize age appropriate software programs.

Week 4**Theme:** Fall Festival**Letter of the Week:** Mm**Number for the Week:** 3**Shape for the Week:** circle**Math Center:** Using M&M candies, students will practice two and three color patterning. **Enrichment:** Students can make a four, five, or six color pattern with the candies.**Language Arts Center:** Students will glue marshmallows onto a capital and lowercase Mm.**Science/Social Studies Center:** Students will sort, categorize, and match up leaves.**Creative Writing Center:** Students will copy the prompt "This is Me!" and illustrate it.**Computers/Free Time Center:** Students will utilize age appropriate computer programs.**Week 5****Theme:** Fall Festival**Letter of the Week:** Aa**Number for the Week:** 3**Shape for the Week:** rectangle**Math Center:** Students will practice patterning with apples.**Language Arts Center:** After reading *Ten Apples Up On Top* by Dr. Suess, students will make a classroom book based on the book.**Science/Social Studies Center:** Students will sequence pictures of an apple from whole to one bite taken, two bites taken, three bites taken, and core.**Creative Writing Center:** Students will write the prompt, "My favorite apples are ____." Students will fill in color word and illustrate the prompt.**Computers/Free Time Center:** Students will use age-appropriate computer software programs.**Week 6****Theme:** Halloween**Letter of the Week:** Ff**Number for the Week:** 5**Shape for the Week:** diamond**Math Center:** Students will match fruit loops to numerals 0 to 5.**Language Arts Center:** Students will copy the prompt, "_____ is my friend. I like him/her because ____." Teacher will help the student fill in the blanks. Students will illustrate the prompt by drawing a picture of their friend with them.**Science/Social Studies Center:** Students will bring in signs of Fall from home. Students will classify the signs of Fall that were brought in.**Creative Writing Center:** Students will have Fall fun making leaf rubbings.**Computers/Free Time Center:** Students will use age-appropriate software.

Week 7**Theme:** Halloween**Letter of the Week:** Dd**Number for the Week:** 6**Shape for the Week:** oval**Math Center:** Students will roll dice and then count that number of dinosaur counters.**Language Arts Center:** Students will find Dd pictures in magazines.**Science/Social Studies Center:** Students will make fossil prints using playdoh. Students will make a volcano and watch it erupt using visually depicted directions.**Creative Writing Center:** Students will write the prompt, "Dd is for dollar." Then illustrate what they would buy with a dollar. Or, students will write and illustrate the prompt, "Dd is for dinosaur."**Computers/Free Time Center:** Age-appropriate software programs.**Week 8****Theme:** Halloween**Letter of the Week:** Ss**Number for the Week:** 7**Color for the Week:** black**Math Center:** Students will make paint spider prints with their hands. Or, students will make spider headbands.**Language Arts Center:** Students will glue yarn on to construction paper to make a spider web.**Science/Social Studies Center:** Students will make a skeleton on construction paper using q-tips.**Creative Writing Center:** Students will copy the prompt, "Ss is for spooky" and illustrate it.**Computers/Free Time Center:** Free choice of available programs.**Week 9****Theme:** Halloween**Letter of the Week:** Hh**Number for the Week:** 8**Color for the Week:** orange**Math Center:** Students will practice one-to-one correspondence for the numerals 1-8 with mini-pumpkins.**Language Arts Center:** Students will make an orange and black caterpillar.**Science/Social Studies Center:** Students will make a Haunted House.**Creative Writing Center:** Students will copy and illustrate the prompt, "Happy Halloween!"**Computers/Free Time Center:** Free choice of available software.

Week 10**Theme:** Assessment**Week 11****Theme:** Thanksgiving**Letter of the Week:** Ww**Number for the Week:** 9**Color for the Week:** white**Math Center:** Students will make a wampum necklace out of colored noodles.**Language Arts Center:** Students will brainstorm, write, and illustrate "Steps to Catch a Wild Turkey."**Science/Social Studies Center:** Students will make a wigwam using construction paper and popsicle sticks.**Creative Writing Center:** Students will copy the prompt, "Will you save a turkey?" and illustrate it by disguising a turkey.**Computers/Free Time Center:** Free choice of available software.**Week 12****Theme:** Thanksgiving**Letter of the Week:** li**Number for the Week:** 10**Color for the Week:** brown**Math Center:** Students will practice number correspondence for the numerals 1-10 with candy corn.**Language Arts Center:** Students will make Native America Indian puppets.**Science/Social Studies Center:** Students will make a Native American Indian headband.**Creative Writing Center:** Students will copy and illustrate the prompt, "li is for Indian."**Computers/Free Time Center:** Free choice.**Week 13****Theme:** Thanksgiving**Letter of the Week:** Pp**Color for the Week:** yellow**Math Center:** Students will practice patterning with turkey tail feathers.**Language Arts Center:** Students will make a Pilgrim puppet.**Science/Social Studies Center:** Students will make Pilgrim hats, bonnets, and collars. Students will help decorate the Mayflower boat.**Creative Writing Center:** Students will copy and illustrate the prompt, "Pp is for Pilgrim."**Computers/Free Time Center:** Free choice.

Week 14**Theme:** Holidays**Letter of the Week:** Oo**Number for the Week:** 11**Color for the Week:** red**Math Center:** Students will make an octagon stop sign.**Language Arts Center:** Students will make an octopus headband.**Science/Social Studies Center:** Students will decorate ornaments for the Holidays.**Creative Writing Center:** Students will draft, rewrite, and illustrate a "Letter to Santa".**Computers/Free Time Center:** Free choice.**Week 15****Theme:** Holidays**Letter of the Week:** Gg**Number for the Week:** 12**Color for the Week:** green**Math Center:** Students will sequence the 12 Days of Christmas. Or, students will roll dice and sequence that number of fruit loops on a string for garland.**Language Arts Center:** Students will make a red and green garland with construction paper strips.**Science/Social Studies Center:** Students will practice gift wrapping presents of various shapes and sizes.**Creative Writing Center:** Students will copy and illustrate the prompt, "Seasons Greetings" or "Gg is for green tree."**Computers/Free Time Center:** Free choice.**Week 16****Theme:** Holidays**Letter of the Week:** Cc**Math Center:** Christmas activities.**Language Arts Center:** Christmas activities.**Science/Social Studies Center:** Christmas activities.**Creative Writing Center:** Christmas activities.**Computers/Free Time Center:** Christmas activities.

Week 17**Theme:** Solar System**Letter of the Week:** Ll**Number for the Week:** 13**Color for the Week:** blue**Math Center:** Students will line up the planets in order of where they are in outer space. Students will sequence and categorize the planets by various criteria, smallest to largest, largest to smallest, hottest to coldest, coldest to hottest, planets with most moons to planets with the least moons, planets with least moons to planets with the most moons.**Language Arts Center:** Students will color, cut, and glue pictures that begin with Ll for a language experience book.**Science/Social Studies Center:** Students will make a solar system headband.**Creative Writing Center:** Students will copy and illustrate the prompt, "January, 2000. Happy New Year!"**Computers/Free Time Center:** Free choice.**Week 18****Theme:** Solar System**Letter of the Week:** Ee**Number for the Week:** 14**Color for the Week:** purple**Math Center:** Students will practice estimating.**Language Arts Center:** Students will create their own extra-terrestrial being and write about it in a language experience book.**Science/Social Studies Center:** Students will play memory game based on the planets.**Creative Writing Center:** Students will copy and illustrate the prompt, "I live on planet Earth."**Computers/Free Time Center:** Free choice.**Week 19****Theme:** Solar System**Letter of the Week:** Rr**Number for the Week:** 15**Color for the Week:** pink**Math Center:** Students will practice addition with Reese's Pieces candies. Students will practice addition playing a dice game.**Language Arts Center:** Students will cooperatively invent a rocket.**Science/Social Studies Center:** Students will create their own star constellations.**Creative Writing Center:** Students will copy and illustrate the prompt, "Rr is for rocket ride." Or, students will copy and finish the prompt, "If I had a rocket I'd fly to ____." Students will also illustrate the prompt.**Computers/Free Time Center:** Free choice.

Week 20**Theme:** Assessment

Complete students' action research project assessments.